

**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>5</sup> :</b>  <b>A61K 31/20</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 91/19491</b>  <b>(43) International Publication Date:</b> 26 December 1991 (26.12.91)
<b>(21) International Application Number:</b> PCT/GB90/00909 <b>(22) International Filing Date:</b> 13 June 1990 (13.06.90)  <b>(71)(72) Applicants and Inventors:</b> LE MAY, David, S. [GB/GB]; LE MAY, Edwina, J. [GB/GB]; Ladymeads Farm, Lower Cousley Wood, Wadhurst, East Sussex TN5 6HH (GB).  <b>(74) Agents:</b> BLAKE, John, Henry, Francis et al.; Brookes & Martin, High Holborn House, 52/54 High Holborn, London WC1V 6SE (GB).  <b>(81) Designated States:</b> AT (European patent), AU, BE (European patent), CA, CH (European patent), DE (European patent)*, DK (European patent), ES (European patent), FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), NO, SE (European patent), US.		<b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> USE OF CALCIUM SOAP FOR THE TREATMENT OF INFLAMMATORY SKIN REACTIONS IN HORSES AND PONIES  <b>(57) Abstract</b>  A medicament based on a calcium soap grease is used to prevent or treat sweet-itch in horses and ponies.		

\* See back of page

### DESIGNATIONS OF "DE"

Until further notice, any designation of "DE" in any international application whose international filing date is prior to October 3, 1990, shall have effect in the territory of the Federal Republic of Germany with the exception of the territory of the former German Democratic Republic.

#### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	ES	Spain	MG	Madagascar
AU	Australia	FI	Finland	ML	Mali
BB	Barbados	FR	France	MN	Mongolia
BE	Belgium	GA	Gabon	MR	Mauritania
BF	Burkina Faso	GB	United Kingdom	MW	Malawi
BG	Bulgaria	GN	Guinea	NL	Netherlands
BJ	Benin	GR	Greece	NO	Norway
BR	Brazil	HU	Hungary	PL	Poland
CA	Canada	IT	Italy	RO	Romania
CF	Central African Republic	JP	Japan	SD	Sudan
CG	Congo	KP	Democratic People's Republic of Korea	SE	Sweden
CH	Switzerland	KR	Republic of Korea	SN	Senegal
CI	Côte d'Ivoire	LI	Liechtenstein	SU	Soviet Union
CM	Cameroon	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LU	Luxembourg	TC	Togo
DE	Germany	MC	Monaco	US	United States of America
DK	Denmark				

**USE OF CALCIUM SOAP FOR THE TREATMENT OF INFLAMMATORY  
SKIN REACTIONS IN HORSES AND PONIES**

This invention is concerned with a novel medicament for veterinary use, particularly in the treatment or prophylaxis of sweet-itch in horses and ponies.

Sweet-itch is a seasonal allergic inflammation of the skin of horses and ponies caused by a hypersensitive reaction. Insect bites, particularly from culicoides midges, are suspected of causing or exacerbating the condition. Hitherto treatment has been by application of soothing materials, such as calamine and anti-histamine creams, and anti-parasite preparations such as benzyl benzoate. Anti-inflammatory drugs such as corticosteroids have also been used, but prolonged use of such strong remedies is undesirable. The effect of topical application of water/oil emulsions is generally of short duration. As a preventive treatment, fly repellents have generally been too short-acting.

Similar inflammatory reactions can be caused by contact with mud and rain, giving rise to mud fever and rain scald.

The present invention is based on the discovery that calcium soap grease not only has a soothing effect on existing problems, but inhibits further outbreaks, and when applied early enough can prevent the onset of the condition.

In one aspect the present invention provides calcium soap grease for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.

In another aspect the present invention provides the use of calcium soap grease for the manufacture of a medicament for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.

The calcium soap grease medicament has been found particularly useful in respect of sweet-itch problems, but it may also be used in cases of mud fever and rain scald.

The calcium soap grease preferably comprises a mineral oil thickened with a calcium soap. The calcium soap is preferably calcium stearate, particularly calcium 12-hydroxy stearate.

The mineral oil is preferably a paraffinic oil which has been solvent refined and with a low aromatic hydrocarbon content, preferably less than 4%. A mineral oil having an initial boiling point of about 210°C and a final boiling point of about 495-500°C is especially suitable.

To prepare the grease, the calcium soap is blended with the mineral oil and the mixture is heated, for example at a temperature of about 130°C, with constant mixing until a desired penetration value of the cooled product is reached.

A product with a penetration value of 265-295 at 25°C is particularly suitable (Cone Penetration - ASTM D 217/82).

The calcium soap is used in an amount which will provide a desired thickening effect to the mineral oil. An amount of about 15% by weight of the combined soap/oil mixture has been found to give a suitable product.

Alternatively the calcium soap grease may comprise a blend of calcium stearate and a mineral oil or grease.

The calcium soap grease is preferably used directly as the medicament, without the addition of additives. However conventional veterinarily acceptable additives may be incorporated provided that they do not effect the efficacy of the product. For example dyestuffs, colouring agents, or additional thickeners or viscosity modifiers may be used to adjust the appearance or feel of the product. The pure product is preferred.

In ponies and horses known to suffer from sweet-itch, the calcium soap grease is typically applied to the potential sites of irritation, usually around the mane and tail, at the beginning of the midge season usually at weekly intervals. Further applications are made if signs of sweet-itch are noticed. When animals are already suffering more frequent application may be necessary around the sites of irritation and

to soften and remove any crusts that have formed.

The medicament may also be similarly used for prevention or treatment of mud fever or rain scald by applying the medicament to an inflamed area or an area of skin likely to be affected by the problem. In the case of mud fever this will primarily be the legs and possibly the stomach of the horse or pony. In the case of rain scald the upper body portions, primarily the back, will be the area to be treated.

In the absence of an inflammatory problem the medicament may be used in similar fashion as an insect-repellent, especially a fly-repellent.

In an alternative embodiment of the invention the medicament comprises a calcium soap alone or blended with veterinarily acceptable emollients.

CLAIMS

1. The use of a calcium soap for the manufacture of a medicament for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.

2. The use of a calcium soap grease for the manufacture of a medicament for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.

3. The use according to Claim 2 in which the calcium soap grease is a mineral oil thickened by heating with a calcium soap.

4. The use according to Claim 3, in which the mineral oil is an oil having an initial boiling point of about 210°C and a final boiling point of about 495-500°C.

5. The use according to Claim 2 in which the calcium soap grease is a blend of a calcium soap and a mineral oil or grease.

6. The use according to any one of Claims 2 to 5, in which the calcium soap comprises about 15% of the grease.

7. The use according to any one of Claims 1 to 6 in which the calcium soap is calcium stearate.

8. The use according to any one of Claims 1 to 7, in which the medicament is for the treatment of sweet-itch.

9. The use according to any one of Claims 1 to 7, in which the medicament is for the treatment of mud fever or rain scald.

10. A veterinary composition comprising a calcium soap dispersed in a veterinarily acceptable carrier.

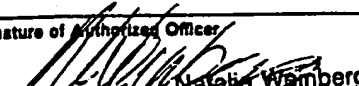
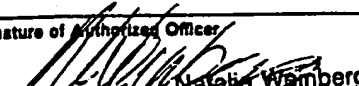
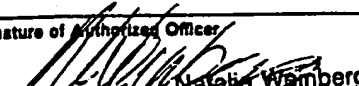
11. A calcium soap as a therapeutic agent for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.

12. A calcium soap grease as a therapeutic agent for the treatment or prophylaxis of inflammatory skin reactions in horses and ponies.



# INTERNATIONAL SEARCH REPORT

International Application No PCT/GB 90/00909

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>6</sup> According to International Patent Classification (IPC) or to both National Classification and IPC IPC <sup>5</sup> : A 61 K 31/20														
<b>II. FIELDS SEARCHED</b> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Minimum Documentation Searched <sup>7</sup></div> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%; text-align: left; border-bottom: 1px solid black;">Classification System</th> <th style="width: 70%; text-align: left; border-bottom: 1px solid black;">Classification Symbols</th> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">IPC<sup>5</sup></td> <td style="padding: 5px;">A 61 K</td> </tr> </table> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Documentation Searched other than Minimum Documentation to the extent that such Documents are included in the Fields Searched <sup>8</sup></div>			Classification System	Classification Symbols	IPC <sup>5</sup>	A 61 K								
Classification System	Classification Symbols													
IPC <sup>5</sup>	A 61 K													
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT <sup>9</sup></b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%; text-align: left; border-bottom: 1px solid black;">Category <sup>9</sup></th> <th style="width: 70%; text-align: left; border-bottom: 1px solid black;">Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup></th> <th style="width: 20%; text-align: left; border-bottom: 1px solid black;">Relevant to Claim No. <sup>13</sup></th> </tr> <tr> <td style="border-right: 1px solid black; text-align: center; vertical-align: top; padding: 5px;">A</td> <td style="border-right: 1px solid black; padding: 5px;">           US, A, 4439420 (MATTEI et al.)            27 March 1984            see abstract; column 4, line 63 -            column 5, line 52; example 1;            claims  <div style="text-align: center;">--</div> </td> <td style="vertical-align: top; padding: 5px;">1-12</td> </tr> <tr> <td style="border-right: 1px solid black; text-align: center; vertical-align: top; padding: 5px;">A</td> <td style="border-right: 1px solid black; padding: 5px;">           WO, A, 90/01323 (BERNSTEIN)            22 February 1990            see abstract; page 2, lines 1-34;            claims  <div style="text-align: center;">--</div> </td> <td style="vertical-align: top; padding: 5px;">1-12</td> </tr> <tr> <td style="border-right: 1px solid black; text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="border-right: 1px solid black; padding: 5px;">           Chemical Abstracts, volume 90, no. 25,            18 June 1979, (Columbus, Ohio, US),            A.A. Aliev et al.: "Effect of sodium            acetate and stearic acid on the level            of choline in sheep",            see page 503, abstract 202632b            &amp; Byul. VNII Fizol. Biokhimii i            Pitaniya S.-kh. Zhivotnykh 1978,            (3-50), 48-50  <div style="text-align: center;">--</div> </td> <td style="vertical-align: top; padding: 5px;">10</td> </tr> </table>			Category <sup>9</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>	A	US, A, 4439420 (MATTEI et al.) 27 March 1984 see abstract; column 4, line 63 - column 5, line 52; example 1; claims <div style="text-align: center;">--</div>	1-12	A	WO, A, 90/01323 (BERNSTEIN) 22 February 1990 see abstract; page 2, lines 1-34; claims <div style="text-align: center;">--</div>	1-12	X	Chemical Abstracts, volume 90, no. 25, 18 June 1979, (Columbus, Ohio, US), A.A. Aliev et al.: "Effect of sodium acetate and stearic acid on the level of choline in sheep", see page 503, abstract 202632b & Byul. VNII Fizol. Biokhimii i Pitaniya S.-kh. Zhivotnykh 1978, (3-50), 48-50 <div style="text-align: center;">--</div>	10
Category <sup>9</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>												
A	US, A, 4439420 (MATTEI et al.) 27 March 1984 see abstract; column 4, line 63 - column 5, line 52; example 1; claims <div style="text-align: center;">--</div>	1-12												
A	WO, A, 90/01323 (BERNSTEIN) 22 February 1990 see abstract; page 2, lines 1-34; claims <div style="text-align: center;">--</div>	1-12												
X	Chemical Abstracts, volume 90, no. 25, 18 June 1979, (Columbus, Ohio, US), A.A. Aliev et al.: "Effect of sodium acetate and stearic acid on the level of choline in sheep", see page 503, abstract 202632b & Byul. VNII Fizol. Biokhimii i Pitaniya S.-kh. Zhivotnykh 1978, (3-50), 48-50 <div style="text-align: center;">--</div>	10												
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><sup>10</sup> Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 50%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"G" document member of the same patent family</p> </div> </div>														
<b>IV. CERTIFICATION</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;">           Date of the Actual Completion of the International Search-  <div style="text-align: center;">10th January 1991</div> </td> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;">           Date of Mailing of this International Search Report  <div style="text-align: center;">30.01.91</div> </td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;">           International Searching Authority  <div style="text-align: center;">EUROPEAN PATENT OFFICE</div> </td> <td style="border-bottom: 1px solid black; padding: 5px;">           Signature of Authorized Officer  <div style="text-align: center;">               Natalie Wernberg           </div> </td> </tr> </table>			Date of the Actual Completion of the International Search- <div style="text-align: center;">10th January 1991</div>	Date of Mailing of this International Search Report <div style="text-align: center;">30.01.91</div>	International Searching Authority <div style="text-align: center;">EUROPEAN PATENT OFFICE</div>	Signature of Authorized Officer <div style="text-align: center;">               Natalie Wernberg           </div>								
Date of the Actual Completion of the International Search- <div style="text-align: center;">10th January 1991</div>	Date of Mailing of this International Search Report <div style="text-align: center;">30.01.91</div>													
International Searching Authority <div style="text-align: center;">EUROPEAN PATENT OFFICE</div>	Signature of Authorized Officer <div style="text-align: center;">               Natalie Wernberg           </div>													

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, " with indication, where appropriate, of the relevant passages	Relevant to Claim No.
A	<p>Chemical Abstracts, volume 67, no. 4, 24 July 1967, (Columbus, Ohio, US), A.I. Tareeva et al.: "Comparative study of anthelmintic properties common to some organic tin compds.", see page 1916, abstract 20351b &amp; Farmakol. Toksikol. 30(2), 207-9 (1967)</p> <p>-----</p>	1-12

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO.**

GB 9000909

SA 37687

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 21/01/91  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 4439420	27-03-84	AU-B- 560273	02-04-87
		AU-A- 2138383	24-05-84
		CA-A- 1216233	06-01-87
		EP-A, B 0109310	23-05-84
		JP-A- 59101155	11-06-84
		US-E- RE32208	15-07-86
WO-A- 9001323	22-02-90	AU-A- 4216089	05-03-90